

1. BASOV, D. L.

2. USSR (600)

4. Blasting

7. Use of pressed ammonite for blasting flooded dumps. Gor. zhur. no. 11, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

BASOV, D.L., inzhener.

Increasing the length of service of individual parts of an
SE-3 excavator. Vest.mash.34 no.1:43-45 Ja '54. (MLRA 7:2)

1. Direktor Kounradskogo rudnika. (Excavating machinery)

BASOV, D.I.

~~Referred to as~~ by bulldozer. Gor.zhur. no.6:25-27 Je '57.
(MLRA 10:8)

1. Direktor Almalykskogo kombinata.
(Bulldozers) (Excavations)

Basov, D.L.

SUBJECT: USSR/Mining

127-10-3/24

AUTHOR: Basov, D.L., Director, Almalyk Combine

TITLE: Kal'makir Copper-Molybdenum Mine (Kal'makirskiy medno-molibdenovyy rudnik)

PERIODICAL: Gornyy Zhurnal, 1957, #10, pp 11-16 (USSR)

ABSTRACT: The Kal'makir mine will be a supplier of the Almalyk Copper-Molybdenum Combine now under construction.

The deposit is located at the foothills of the Kuraminsk ridge of the Tyan'-Shan' mountains, south-east of Tashkent. The region consists mainly of syenite magma rocks, covered with up to 40 m thick Quarternary layers of loess and diluvium.

The zone of industrially important primary ores is 1800 m long, 900 m wide and 470 m below the earth surface, extending in south-east to north-west direction. By the amount of copper content, the deposit is divided into 3 sections: that of industrial importance with copper content exceeding 0.5 %, poor ores with copper content from 0.3 to 0.5 % and very poor ores with copper content from 0.1 to 0.3 %. Industrial ores will be transported by railroad to a concentration plant

Card 1/3

127-10-3/24

TITLE: Kal'makir Copper-Molybdenum Mine (Kal'makirskiy medno-molibdenovyy rudnik)
rocks were removed during 2.5 years, including about 2,500,000 cu m in 1956.
Actual ore mining will start within the next 1 to 2 years.
The article contains 4 photos and one plan.
No references are cited.

ASSOCIATION: Almalyk Copper-Molybdenum Combine (Almalykskiy medno-molibdenovyy Kombinat)

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 3/3

~~RASOV, D. I.~~

Some remarks about articles published by "Gornyi zhurnal" in 1956.
Gor. zhur. no.5:77-79 My '57. (MIRA 10:6)

1. Direktor ~~Almalyk~~skogo kombinata.
(Mining engineering)

AUTHOR: Poklonskiy, P.S., Director 127-58-4-29/31

TITLE: About the article of D.L. Basov, "A Few Remarks on Articles Published in the Gornyy Zhurnal in 1956" (Na stat'yu D.L. Basova "Neskol'ko zamechaniy o stat'yakh, opublikovannykh v Gornom Zhurnale v 1956 g.")

PERIODICAL: Gornyy Zhurnal, 1958, Nr 4, p 75 (USSR)

ABSTRACT: The author answers the criticisms made by D.L. Basov of the article by V.A. Novikov published in Nr 12 (1956) of this periodical under the title "Widely Used Excavator Terraces" ("Shire primenyat' ekskavatornyye otvaly"). Though Basov's observations were basically correct, the author finds that he did not take into consideration normal labor conditions on terrace formations.

ASSOCIATION: Altyn-Topkanskiy kombinat (The Altyn-Topka Combine)

Card 1/1 1. Periodicals - USSR

AUTHOR: Basov, D.L., Mining Engineer SOV-127-58-9-5/20

TITLE: ~~The Efficiency~~ of Dumping Operations in Quarries with Railway Transportation (Ekonomika otval'nykh rabot na kar'yerakh s zheleznodorozhnym transportom)

PERIODICAL: Gornyy zhurnal, 1958, Nr 9, pp 32-37 (USSR)

ABSTRACT: According to the Institut gornogo dela AN SSSR (The Institute of Mining Industry of the AS USSR) the open pit operations in quarries will be doubled in the next few years in comparison with the last 5-year plan. As 72.2 % of the stripped rock will be transported by railway cars, the problem of forming terraces with stripped rocks will become very important. The author reviews different methods of terrace formation used in various mines, and finds that use of both dumping plows and excavators reduces the cost of dumping operations. Excavators are generally used when it is impossible to build dumping terraces higher than 10-15 m, and over this dumping plows are more economical. There are 2 tables and 1 Soviet reference.

1. Mining engineering--USSR 2. Quarries--Equipment--Effectiveness

Card 1/1

18

SOV/127-59-4-10/27

AUTHOR: Basov, D.L., Mining Engineer

TITLE: The Planed Terrace Formation. (Strugovoye otvaloobrazovaniye).

PERIODICAL: Gornyy zhurnal, 1959, Nr 4, pp 51-53 (USSR)

ABSTRACT: The author describes a transformed E-502 excavator which was used in the formation of dumping terraces at the Kal'makir copper-molybdenum open pit mine. The stripped rock was usually transported by train and then levelled by bulldozers. But with the hard rocks, bulldozers were usually very soon out of action. The above mentioned excavator was then transformed into an excavator-planer by replacing its shovel arm with a 10 m long arm on which a moving plane was fixed. It moved along the dumping front and levelled or pushed larger pieces over the side. Its monthly productivity reached 71,383 cubic meters. Its maintenance costs were

Card 1/2

~~BASOV, F.~~, inzh.; BARTEN'YEV, A., inzh.

New building machinery. Stroitel' no.2:27 F '60.
(MIRA 13:5)

(Building machinery)

Deceased

BASOV, Gennadiy Fedorovich, doktor tekhn. nauk [deceased]; GRISHCHENKO,
Mikhail Nikolayevich, doktor geol.-miner. nauk; KOVALIN, D.T.,
red.; SVETLAYEVA, A.S., red. izd-va; KARLOVA, G.L., tekhn.red.

[Hydrological role of forest shelterbelts; based on the data of
a study made in the Kamennaya Steppe] Gidrologicheskaya rol'
lesnykh polos; po dannym issledovaniy, provedennykh v Kamennoi
stepi. Moskva, Goslesbumizdat, 1963. 199 p. (MIRA 17:2)

Voronezh Forest Culture Inst (1948)

ACC NR: AP6025310

(A,N)

SOURCE CODE: UR/0326/66/013/004/0705/0711

AUTHOR: Bokarev, K. S.; Kapelyushnikova, L. M.; Basova, G. I.; Zhogova, Ye. P.

ORG: Institute of Plant Physiology im. K. A. Timiryazev, Academy of Sciences, SSSR, Moscow (Institut fiziologii rasteniy Akademii nauk SSSR)

TITLE: Plant growth regulators 2,4-dichlorophenol and 2,4,5-trichlorophenol alkyl ethers

SOURCE: Fiziologiya rasteniy, v. 13, no. 4, 1966, 705-711

TOPIC TAGS: plant growth regulator, defoliant, herbicide, herbicide effect, dichlorophenol alkyl ether, trichlorophenol alkyl ether, defoliant agent, plant chemistry

ABSTRACT:

Research has shown that substances which lower auxin and SH group activity should inhibit growth and induce defoliation of potato plants. The heavy metal ions, mainly those of mercury, form insoluble mercaptides with SH groups. Other inhibitors, e.g., ethylene, suppress the thiol group of proteins. It is known that ethylene and synthetic defoliants suppress the activity of the thiol group in leaf extracts. A separation layer in the petioles accompanies a decrease in the auxin content and an increased ethylene content in the leaves. Auxin and ethylene exist in an antagonistic state. Treating the leaves with heteroauxin helps retain leaves, while placing plants in an

Card 1/3

UDC: 581.143+632.954

ACC NR: AP6025810

is nonenzymatic and its mechanism is little known. Certain ethers of 2,4-D and 2,4,5-T stimulate flowering in pineapple plants. Compounds such as 3-chloropropyl 2,4-dichlorophenyl ether, patented as an anti-sprouting agent for potatoes, alkyl 2,4,5-trichlorophenyl and alkyl-2,4-dichlorophenyl ethers except for 2,4-D and 2,4,5-T were obtained by heating the corresponding alkyl halides with an alcoholic solution of potassium 2,4,5-trichlorophenoxide or potassium 2,4-D in ethylene glycol. The properties of the ethers are shown in tables 1-4. Results of the determination of herbicidal activity is shown in Table 5. Methyl, ethyl, n-propyl, isopropyl, n-butyl and isobutyl ethers of 2,4,5-trichlorophenol inhibit sprouting in potatoes, while 2,4-D had little or no effect on potatoes but varying results were obtained when it was tested on other plants.

SUB CODE: 06/ SUBM DATE: 07Jun65/ ORIG REF: 008/ OTH REF:
[WA-50; CBE No. 11]

Card 3/3

SOKOLOV, I.I., professor; BASOV, G.V., redaktor; TSIRUL'NITSKIY, N.P.,
tekhnicheskyy redaktor.

[Course in physics] Kurs fiziki. Izd. 11-e. Moskva, Gos.uchebno-
pedagog.izd-vo Ministerstva prosveshcheniya RSFSR. Pt. 1.[Mechanics.
Text book for class 8 of the secondary school] Mekhanika. Uchebnik
dlya 8-go klassa srednei shkoly. 1950. 263 p. (MIRA 8:4)
(Mechanics)

1. BASOV, G. V.
2. USSR 600
4. Physics - Study and Teaching
7. New textbook on physics for upper classes of secondary schools, Fiz. v shkole, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

PERYSHKIN, Aleksandr Vasil'yevich; TRET'YAKOV, Nikolay Petrovich;
BASOV, Georgiy Vasil'yevich, nauchnyy red.; ROGACHEV, F.V.,
~~red.; YAKOV, S.I., tekhn. red.~~

[Physics] Fizika. Izd.3.. ispr. i dop. Moskva, Vses.
uchebno-pedagog.izd-vo Trudrezervizdat, 1959. 454 p.

(MIRA 12:11)

(Physics)

YELIZAROV, Konstantin Nikolayevich; BASOV, G.V., red.; KORNEYEVA, V.I.,
tekhn.red.

[Fundamentals of the teaching of the electric field (electrostatics)
in secondary schools; teachers manual] Osnovy uchenia ob elektricheskoi pole v srednei shkole (elektrostatika); posobie dlia uchitelei.
Moskva, Gos.uchebno-pedagog.izd-vo M-va prosv.RSFSR, 1959. 173 p.
(MIRA 13:4)

(Electric fields)

1. BASOV, I., KRYLOV, A.
2. USSR (600)
4. Machine-Tractor Stations
7. Consolidate the staff of directing personnel and mechanizers of the machine-tractor station. MTS No. 11 1952.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

BASOV, I.; POPOV, V., doktor sel'skokhozyaystvennykh nauk

Applying chemistry in weed control. Nauka i pered. op v sel'khoz.
8 no.4:34-35 Ap '58. (MIRA 11:5)

1.Chlen kollegii Ministerstva sel'skogo khozyaystva USSR (for Basov).
(Herbioides)

BASOV, I.

Historical decisions should be put in practice. MTO 3 no.12:6-9
D '61. (MIRA 15:1)

1. Predsedatel' Ukrainskogo respublikanskogo pravleniya nauchno-
tekhnicheskogo obshchestva sel'skogo i lesnogo khozyaystva.
(Russia—Economic policy)

BASOV, I.

Combining construction and assembly of the equipment of an
acetate plant. Na stroi. Ros. 4 no.4:6-7 Ap '63. (MIRA 16:4)

1. Glavnyy inzhener tresta No. 3 Engel'skhimstroy.

(Engel's (Saratov Province) — Chemical plants —
Design and construction)

RASOV, I.F.

Compensation method for testing resistance boxes. Izv.tekh. no.1:
68-69 Ja-F '56. (MLRA 9:5)
(Electric resistance--Measurement)

BASOV, I.G., Cand Chem Sci — (diss) " Study of the effect of ^{the force of} ~~increased~~ ^{rate} ~~lead up~~ ^{speed} ~~velocity~~ on the ~~velocity~~ of drilling and the ~~performance~~ performance of pneumatic drilling hammers." Tomsk, 1958. 13 pp (Min of Higher Education USSR. Tomsk Order of Labor Red Banner Polytechnic Inst in S.M.Kirov), 100 copies (KL, 43-58, 115)

- 22 -

ALIMOV, O.D.; BASOV, I.G.; SAMOYLOV, P.A.

Some results of investigating the duty of pneumatic bore-hammers.
Izv. TPI 106:9-23 '58. (MIRA 11:11)
(Rock drills--Pneumatic driving)

BASOV, I. G.

PHASE I BOOK EXPLOITATION

SOV/5156

Alimov, Oleg Dmitriyevich, Ivan Grigor'yevich Basov, Valeriy Fedorovich Gorbunov, and Dmitriy Nikiforovich Malikov

Buril'nyye mashiny (Boring Machinery) Moscow, Gosgortekhnizdat, 1960. 256 p.
Errata slip inserted. 5,300 copies printed.

Resp. Ed.: L.M. Feygin; Tech. Ed.: S.Ya. Shklyar; Ed. of Publishing House:
F.I. Abarbarchuk.

PURPOSE: This book is intended for technical personnel concerned with the design and operation of boring machinery. It may also be used as a textbook by students at mining and civil-engineering schools of higher education.

COVERAGE: The authors describe modern mining equipment and discuss methods and results of investigating the operation and performance of pneumatic hammer drills, electric and pneumatic drills, rotary-percussive machines, and cross-cutting machines. New, highly efficient models of machines used for drilling blastholes and large-diameter wells are described and methods for their proper utilization are considered. The book is based on the results of investigations

Card 1/4

BASOV, I.G., kand.tekhn.nauk; KOLODYAZHENYI, N.S., inzh.

Results of mine trials of an EBR-1-type, long-stroke electric
drill test specimen. Izv. vys. ucheb. zav.; gor. zhur. no. 11:133-
136 '60. (MIRA 13:12)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskii
institut imeni S.M. Kirova. Rekomendovana kafedroy mashin
rudnichnogo transporta Tomskogo politekhnicheskogo instituta.
(Rock drills--Testing)

ALIMOV, O.D., dotsent; RASOV, I.G., kand.tekhn.nauk; KOLODYAZHNYI, N.S.,
inzh.

Electric drive of the lifting mechanism of a manipulator. Izv.
vys. ucheb. zav.; gor. zhur. no.12:97-100 '60. (MIRA 14:1)

1.Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskoy
institut imeni S.M.Kirova. Rekomendovana kafedroy gronykh mashin
i rudnichnogo transporta Tomskogo politekhnicheskogo instituta.
(Boring machinery)

ALIMOV, O.D.; BASOV, I.G.; PRATUSEVICH, Z.M.; LIVSHITS, D.L.,
red.; BRESTOVITSKAYA, V.P., red.

[Cutting frozen ground with the URMG-60 unit] Rezanie
merzlykh gruntov ustanovkoi URMG-60. Tomsk, Izd-vo
Tomskogo sovmarkhoza, 1962. 19 p. (MIRA 16:10)
(Frozen ground) (Earthmoving machinery)

ALIMOV, O.D.; BASOV, I.G.; ZELINGER, F.F.; YUDIN, V.G.

Trenching in frozen ground with earthcutting machines
and excavators. Stroi. truboprov. 8 no.8:18-19 Ag '63.
(MIRA 16:11)

1. Tomskiy politekhnicheskii institut.

ALIMOV, O.D., doktor tekhn. nauk; BASOV, I.G., kand. tekhn. nauk

Earth-cutting equipment mounted on the base of ETU-353 excavators.
Mekh. stroi. 20 no.9:24-26 S '63. (MIRA 16:10)

(Excavating machinery)

ALIMOV, O. D.; BASOV, I. G.; MALIKOV, D. N.; LISOVSKIY, E. I.

Results of trials performed by a test crew on the RUP-2 coal
chute widener. Ugol' 38 no.4:41-43 Ap '63.

(MIRA 16:4)

(Coal mining machinery—Testing)

ACCESSION NR: AP4012541

S/0056/64/046/001/0171/0175

AUTHORS: Basov, N. G.; Krokhin, O. N.

TITLE: Conditions for heating a plasma by radiation from a laser

SOURCE: Zhurnal eksper. i teoret. fiz., v. 46, no. 1, 1964, 171-175

TOPIC TAGS: plasma, plasma heating, pulsed heating, pulsed plasma heating, laser plasma heating, optical radiation absorption, optical radiation absorption coefficient, plasma thermal conductivity, electronic thermal conductivity, gas dynamic plasma expansion

ABSTRACT: The feasibility is examined of using a laser to heat a deuterium plasma with ion density of the order of $3 \times 10^{21} \text{ cm}^{-3}$ at a temperature close to 10^7 deg. The optical radiation absorption coefficient is calculated to be approximately 10^2 cm^{-1} , showing that effective absorption occurs up to high plasma temperatures. It is shown that at the plasma temperature the energy loss in the plasma is due essentially to electronic thermal conductivity and amounts to $1.3 \times 10^{17} \text{ erg/sec}$. Allowance for the gas dynamic expansion of the plasma also calls for additional laser power. It is concluded

Card 1/2

ACCESSION NR: AP4012541

that a laser power of 10^9 W with flash duration of 10^{-8} sec is capable of heating a hydrogen plasma to somewhat below 10^7 deg, although the practical realization depends essentially on the progress in laser development. "The authors are deeply grateful to L. A. Artsimovich and V. I. Kogan for a discussion of the results of the work." Orig. art. has: 11 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR
(Physics Institute, AN SSSR)

SUBMITTED: 28Nov62

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: PH

NO REF SOV: 005

OTHER: 006

Card 2/2

ALIMOV, O.D., doktor tekhn. nauk; BASOV, I.G., kand. tekhn. nauk;
ZELINGER, F.F., inzh.

Experimental investigation of cutting conditions of frozen
grounds with an earth-digging machine. Stroi. i dor. mash.
10 no.9:1-4 S '65. (MIRA 18:10)

BASOV, Ivan Ivanovich; DEMIDENKA, T.T., profesor, doktor sil's'kogospodars'kikh nauk, redaktor;

[For wide application of scientific aids and the practices of leaders in agriculture] Shyroko vprovadzhuvaty v sil's'kogospodars'ke vyrobnytstvo dosiahnennia nauky i dosvidu peredovykiv. Kyiv, 1956. 30 p. (Tovarystvo dlia poshyrennia politychnykh ta naukovykh znanz' Ukrains'koi RSR. Ser. 2, no.19) (MLRA 10:5) (Agriculture)

RASOV, I.I., red.

[Means of increasing agricultural production per 100 hectares of land on the southern steppe of the Ukrainian S.S.R.] Zakhody po zblisheniu vyrobnytstva s-h. produktsii na 100 ha zemli v pivdannomu stepu URSR. Kyiv, Derzh. vyd-vo sils'kohospodars'koi lit-ry Ukrainskoi RSR, 1957. 235 p. (MIRA 11:9)
(Ukraine—Agriculture)

Basov, I. I.
BASOV, I. I.

Every collective and state farm should have a soil map.

Zemledelie 5 no.12:3-13 D '57.

(Soils--Maps)

(MIRA 11:1)

BASOV, Ivan Ivanovich; PSHENICHNYI, M.I., kand.sel'skokh.nauk, red.;
LYSENKO, F.K., red.

[Prospects for the development of agriculture in the Ukrain's'koi
RSR. Kyiv, Tovarystvo dlia poshyrennia polit. i naukovykh znan'
Ukrain's'koi RSR, 1958. 23 p. (MIRA 12:2)
(Ukraine--Agriculture)

Dasov, I.I.
3(7)

PHASE I BOOK EXPLOITATION

SOV/2384

Konferentsiya po agrometeorologii i agroklimatologii Ukrainskoy SSR

Materialy konferentsii (Material of the Conference on Agricultural Meteorology and Climatology of the Ukrainian SSR) Leningrad, Gidrometeoizdat, 1958. 247 p. Errata slip inserted. 700 copies printed.

Sponsoring Agencies: USSR. Glavnoye upravleniy gidrometeorologicheskoy sluzhby, Ukrainian SSR. Ministerstvo sel'skogo khozyaystva, Ukrain'skiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut, and Ukrainskaya akademiya sel'skokhozyaystvennykh nauk.

Resp. Ed.: G.F. Prikhod'ko; Ed.: V.D. PISOAREVSKAYA; Tech. Ed.: M.I. Braynina.

PURPOSE: This book is intended for agriculturists, agrometeorologists, and instructors in related vuzes.

COVERAGE: This collection of articles deals with problems in agricultural meteorology in the Ukraine. Among the topics discussed

Card 1/7

Material of the Conference (Cont.)

SOV/2384

are: wintering, planting time for winter crops, corn cultivation, potato degeneration, moisture supply, and adverse weather factors. References accompany individual articles.

TABLE OF CONTENTS:

<u>Basov, I.I.</u> [Deputy Minister of Agriculture, Ukr SSR] Introductory Word	3
Bogatyr', T.K. [Chief of the Hydrometeorological Service, Ukr SSR] Practical Hydrometeorological Service for Agricultural Production in the Ukraine	5
Kekukh, A.M. [Ukrainian Scientific Research Hydromet. Institute] Regional Agroclimatological (Reference Books) of the Ukraine and Their Application in Production	10
Prikhot'ko, G.F. [Ukrainian Scientific Research Hydromet. Institute] The State of Agrometeorological Studies in the Ukraine	15
Kopachevskaya, M.N. [Ukrainian Scientific Research Hydromet. Institute] Organization and Utilization of Meteorological Observations	

Card 2/7

Material of the Conference (Cont.)

SOV/2384

of Departmental Stations in Scientific Work and Agricultural Practice 23

Vlasyuk, P.A. and M.A. Gurileva. [Ukrainian Scientific Research Institute for Plant Physiology] Special Features of the Wintering Over of Winter Crops in 1955-56 in Various Regions of the USSR 31

Lichikaki, V.M. [Ukrainian Scientific Research Hydromet. Institute] Agrometeorological Conditions of the Wintering of Winter Crops in the Ukraine 40

Lichikaki, V.M. Agroclimatic Basis for the Planting Time of Winter Crops in the UkrSSR 60

Ulanova, Ye. S. [Central Institute of Prognoses] Relationship Between the Phases in the Development of Winter Crops in Autumn and the Agrometeorological Conditions. Probability in Phase Development of Winter Crops as Related to the Different Planting Time in the Ukraine 69

Card 3/7

Material of the Conference (Cont.)

SOV/2384

Fedorova, N.A. [Ukrainian Scientific Research Institute for Agriculture] Significance of Planting Time for the Wintering of Winter Crops Under Poles'ye (Woodlands) and Northern Lesostep (Forested Steppe Regions) Conditions in the UkrSSR 76

Kucheryavaya, M.I. [Ukrainian Scientific Research Institute of Crop Science] Significance of Critical Temperatures in Forecasting the Wintering Conditions 84

Gurileva, M.A. [Ukrainian Scientific Research Institute for Plant Physiology] Forecasting the Reaction of the Various Grades of Winter Wheat Upon the Intermittent Temperatures of the Winter and Early Spring Periods 91

Gurileva, M.A., and N.A. Fedorova. Results of Checking the Method for Determining the Viability of Winter Crops by the Conditions of the Vegetative Cone 96

Iovenko, N.G. [Ukrainian Scientific Research Hydromet, Institute] Moisture Reserves of Various Climatic Soil Zones of the Ukraine 100

Yemets, G.M. [All-Union Scientific Research Institute for Study of

Card 4/7

Material of the Conference (Cont.)

SOV/2384

Sugar Beets] Soil Water Conditions in Beet Crop Rotation	111
Vishnevskiy, V.V. [Odessa Agromet. Station] Moisture Reserves for Winter Wheat in the Southern Odessa Region and the Importance of the Moisture Providing Irrigation	117
Buchinskiy, I. Ye. [Ukrainian Scientific Research Hydromet. Institute] Climatic Study of Sukhoveys (Dry Winds) in the Ukraine	128
Rozova, Ye. S. [Ukrainian Scientific Research Hydromet. Institute] Rainless Periods in the Ukraine	141
Navrotskaya, V.S. [Odessa Hydromet. Institute] Rainless and Wet Periods in the Prichernomorskaya (Black Sea) Steppe	151
Smal'ko, Ya. A. [Ukrainian Scientific Research Institute for Forestry and Agroforestration] Effective Zones of Shelter Belts	155
Dubinsky, G.P. [Khar'kov State University] Microclimate of Irrigated Lands	169

Card 5/7

Material of the Conference (Cont.)

SOV/2384

Shakhnovich, A.V. [Ukrainian Scientific Research Hydromet. Institute]
Microclimatic Study of Ukrainian Foothills 176

Gol'tsberg, I.A. [Main Geophysical Observatory] Compiling Detailed
Microclimatic Maps 182

Pushkarev, V.F. [State Hydrological Institute] Devices and Methods
for Measuring Evaporation from Cultivated Fields 185

Romanov, V.V. [State Hydrological Institute] Determining Evapora-
tion from Drained and Non-Drained Swamps by the Heat-Balance
Method 193

Kopachevskaya, M.N. Autumn and Spring Frosts in the Ukraine 202

Sapozhnikova, S.A. [Professor, Ukrainian Scientific Research Hy-
dromet. Institute] Climatic Conditions of Corn Cultivation in the
Ukraine 214

Rudenko, A.I. [All-Union Institute of Crop Science] The Effect of
Climatic Conditions on the Degeneration of Potatoes and the Appear-

Card 6/7

Material of the Conference (Cont.)

SOV/2384

ance of Phytophthora (Parasitic Fungi)

230

A suggestion of the Scientific Methodology Council of the UkrSSR
Department of Agriculture

243

AVAILABLE: Library of Congress

Card 7/7

MM/bg
9-22-59

BASOV, I.I.

Soil investigations in the Ukraina S.S.R. Zemledelie 8 no.10:32-
39 0 '60. (MIRA 13:10)

1. Chlen kollegii Ministerstva sel'skogo khozyaystva USSR.
(Ukraine---Soils)

BASOV, Ivan Ivanovich, kand. sel'khoz. nauk; YEFRIMOV, M.V.,
red.

[Chemistry as a powerful means in the development of farm
production] Khimiia - mohutnii zasib rozvytku sil's'ko-
hospodars'koho vyrobnytstva. Kyiv, Urozhai, 1964. 43 p.
(MIRA 17:11)

BASOV, I.S., tekhnik

Safety in the operation of BK-201 crane beams. Energetik 8 no.11:30-
31 N '60. (MIRA 13:12)

(Cranes, derricks, etc.--Electric equipment)

Basov K.I.

A method for studying oxide inclusions in steel. K. I. Basov and M. I. Mnogozet. *Leningradskoe Prilozhenie* 1953, No. 16, p. 1. A clearer picture of these inclusions is obtained in hypoeutectoid higher-C steels by surrounding them with ferrite, for which the steel in question is soaked at 870° for one hour, cooled at 1°/min. to 760°, and water quenched. I. D. Gat

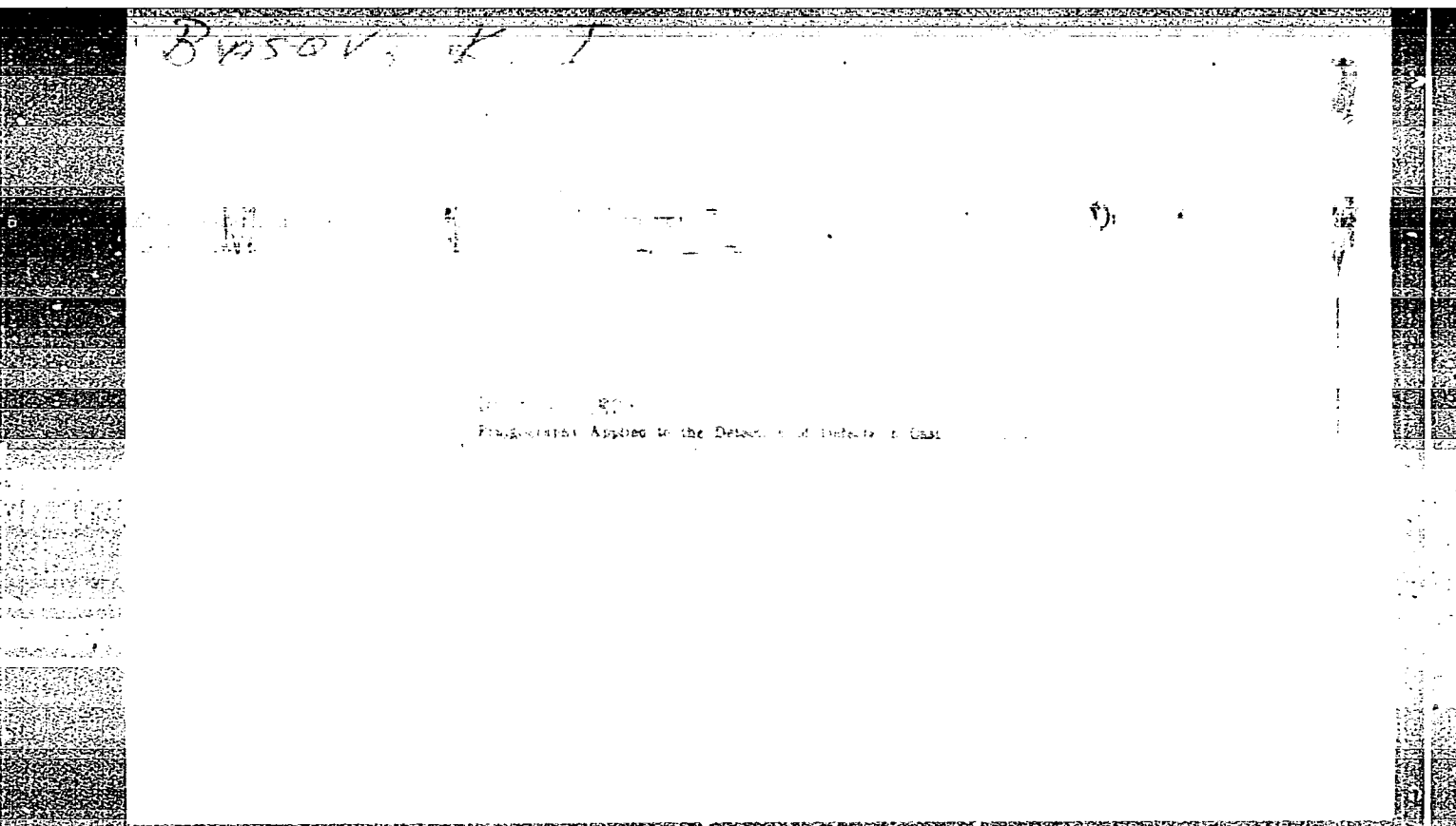
9/8

BASOV, K.I., kandidat tekhnicheskikh nauk, dotsent.

Development of the process of casting Silumin blades with T-shaped
bases. Trudy Bezh.inst.transp.mashinostr.no.15:54-59 '55.

(Aluminum founding) (Turbines--Blades) (MLRA 10:2)

Bezhinst. Transp. Mach. Bldg. Inst.



BASOV, K.I.; KUCHEROV, A.I.

Combination soluble glass mixtures with improved knockout properties. Sbor. trud. BITM no.22:13-20 '64.

Using quick-hardening mixtures with a soluble glass binder for large, shaped steel castings in conditions of small batch production. Ibid.:29-36

(MIRA 18:6)

OF INIINSEIY, N.V., inzh.; KOCHETOV, N.N., inzh.; BLODOV, I.A., inzh.; SHKOL'NIK,
Ya.Sh., inzh.

Technology of casting slag products with supercooled melt.
Sbor. trud. Sverd. nauch.-issl. inst. po stroi. no.10:79-86
163. (MIRA 17:10)

RASOV, L.K.; SALTANOVSKIY, N., zasluzhennyy sootekhnik USSR.

The growth of poultry production in Pershotravnevoye District.
Ptitsevodstvo 8 no.9:7-10 8 '58. (MIRA 11:10)

1. Sekretar' Pershotravnevoye raykoma Kommunisticheskoy Partii Ukrayny
(for Rasov). 2. Predsedatel' soveta meshkolhoznoy utkovodcheskoy fermy
(for Saltanovskiy).

(Pershotravnevoye District—Poultry)

L 5-010-502 E. 1/1/E.T(1)/E.E.(1)/T Pt-5/Pt-4 - IJP(-) RWH/AT
 ACCESSION NR: 105010723 UR/0181/65/007/004/1124/1131

AUTHOR: Rapoport, V. L.; Basov, L. L. 21

TITLE: On the nature of slow photoconductivity in zinc oxide

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1124-1131

TOPIC TAGS: zinc oxide, slow photoconductivity, surface state, photodesorption, activation energy

ABSTRACT: To reconcile the experimental data with the photodesorption model of slow conductivity, the authors measured the photoconductivity in powdered layers of zinc oxide and simultaneously monitored the pressure in the working volume with a sensitive Pirani manometer. The apparatus and technique were analogous to those described earlier (DAN SSSR v. 153, 871, 1963). The sample preparation and the auxiliary equipment are described briefly. The results show that under certain conditions the slow photoconductivity is due not to photodesorption of oxygen, and only to partial discharging of surface oxygen, thereby lowering the potential barriers between the grains and reducing the activation energy. The illumination-

L 52319-65

ACCESSION NR: AP5010723

4

induced increase in photoconductivity can be returned to its previous level by heating in vacuum under conditions where there is no photodesorption of the oxygen. A qualitative model of slow photoconductivity is presented in terms of slow surface states. It is noted that the process of slow photoconductivity may be accompanied by surface photochemical reactions, and this leads to additional changes in the photoconductivity. A similar annealing of slow photoconductivity in vacuum is observed also for In_2O_3 and SnO_2 . "The authors thank Academician A. N. Terenin for guidance and Yu. P. Solonitsyn for useful discussions." Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 01Jun64

ENCL: 00

SUB CODE: EM, IC

RR REF SOV: 009

OTHER: 012

llc

Cord 2/2

BASOV, L.L.; SOLONITSYN, Yu.P.

Photodesorption and photosorption of oxygen on zinc oxide. Kin. i
kat. 6 no.4:752-754 JI-Ag '65. (MIRA 18:9)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.

L 2685-66 EPF(c)/EWT(m)/EWP(i)/T/EWP(t)/EWP(b) IJP(c) DS/JD

ACCESSION NR: AP5023368

UR/0020/65/164/001/0122/0124

AUTHORS: Basov, L. L.; Solonitsyn, Yu. P.; Terenin, A. N. (Academician)

TITLE: Influence of illumination on the adsorption ability of certain oxides

SOURCE: AN SSSR. Doklady, v. 164, no. 1, 1965, 122-124

TOPIC TAGS: photocell, photosorption, semiconductor, metal oxide, oxygen, hydrogen, methane

ABSTRACT: The photosorptive properties of thirty different oxide films were investigated. The aim of the investigation was to extend the data on the effect of light irradiation on the photosorptive properties of a number of oxides reported by V. L. Rapoport (DAN, 153, 871, 1963). The experimental procedure followed was that of Yu. P. Solonitsyn (Kinetika i kataliz, 6, No. 2, 1965). The photosorption ability was determined by measuring the sorption of oxygen, hydrogen, and methane gases. The results are presented in tabular form. It was found that for most oxides photosorption occurs only if irradiated with light of a wavelength shorter than 330 mμ. It is noted that photosorption is a more common phenomenon than photoconduction. Orig. art. has: 1 table.

Card 1/2

L 2685-66

ACCESSION NR: AP5023368

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University)

SUBMITTED: 05Apr65

ENGL: 00

SUB CODE: 00,OP

NO REF SOV: 008

OTHER: 006

KC
6-12/2

BASOV, M., kand.tekhn.nauk

Concrete made with organic aggregates. Sbor. nauch. soob.
NIIsel'stroia no.2:68-70 '60. (MIRA 15:5)
(Aggregates (Building materials)) (Concrete)

BASOV, M., inzh.

Planning the operations of automotive transportation. Avt.
transp. 41 no.3:7-11 Mr '63. (MIRA 16:4)

(Transportation, Automotive—Management)

BASOV, M. A.

Wood-eating beetles in buildings and the fight against them. Moskva, Izd-vo
Ministerstva kommunal'nogo khoziaistva RSFSR, 1949. 50 p. (51-24992)

TAL22.B3

RASOV, M. A.

PA 165T20

USSR/Engineering - Power, Electrical 1 Jun 50

"Analysis of the Recurrence (Frequency) of Heating Load for Designing Heat-Generating Installations," M. A. Rasov, Power Eng Instiment Khrizhzhonovskiy, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXII, No 4, pp 691-694

Rasov proposes new method of analyzing recurrence of heating load over heating season according to multiannual observations, which employs measurements of midday temperatures of outside air during heating season. This graphic method

165T20

USSR/Engineering - Power Electrical 1 Jun 50

(Cont'd)

determines influence of number of boilers on rated heat capacity, optimum ratio between heat and power, and heat losses. Submitted 7 Apr 50 by Acad A. V. Vinter.

165T20

BASOV, M.A.

Communal and everyday requirements of the population in electric heating and centralized heat supply (survey of foreign literature). Trudy LIEI no.51:96-109 '64.

(MIRA 18:11)

BASOV, M. A.

USSR/Electricity - Power Transmission

Sep 51

"Concerning a Voltage Stage Higher Than 220 KV for Long-Distance High-Power Transmission," M. A. Basov

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 9, pp 1265-1283

Concludes that application of split wires and longitudinal compensation increases range for economical use of 220-kv voltage in long-distance transmission to loads of 200-250 thousand kw per line. For transmitting power up to 500-600 thousand kw, single stage of voltage near 400 kv is sufficient. Optimum magnitude of this voltage stage may be found more precisely with the aid of relations established herein. Submitted by Acad A. V. Vinter.

205T3

MAKSIMOVSKIY, Nikolay Pavlovich, kandidat tekhnicheskikh nauk; ~~BASOV, M.A.,~~
kandidat tekhnicheskikh nauk, redaktor; BASHKIROV, L.G., redaktor
izdatel'stva

[Large building blocks] Krupnye bloki. Moskva, Izd-vo Ministerstva
kommunal'nogo khosiaistva RSFSR, 1956. 239 p. (MIRA 10:1)
(Building blocks)

ARMAND, Ye.B.; BASOV, M.I.

Objectives of the automobile industry in the light of decisions of
the July Plenum of the Central Committee of the CPSU. Avt.prom.
no.9:1-4 S '60. (MIRA 13:9)

1. Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii
i mashinostroyeniyu i Nauchno-issledovatel'skiy institut tekhnologii
avtomobil'noy promyshlennosti.

(Automobile industry---Technological innovations)

BASOV, M. I.

Vysokoproizvoditel'nye sposoby izgotovleniia rez'by. Moskva, 1949.
173 p. diagrs.
Bibliography: p. (171).

Highly effecient methods of cutting screw threads.

DLC: TJ1222.B3

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

BASOV, M.I.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 482 - I

BOOK

Call No.: AF639674

Authors: BASOV, M. I., Kand. of Tech. Sci., FEL'DSHTEYN, E. I., Kand. of Tech. Sci., BRAKHMAN, L. A., Eng., STIGNEYEV, YA. F., Eng., KRYSSINA, YE. V., Eng., BOL'SHAKOV, V. M., Tech., BYCHKOV, P. P., Eng., BARYLOV, G. I.

Full Title: CUTTING TOOLS WITH HARD-ALLOY MULTIPLE BLADE INSERTS

Transliterated Title: Rezhushchiye instrumenty s mnogolezviynymi vstavkami iz tverdogo splava

PUBLISHING DATA

Originating Agency: None

Publishing House: State Scientific and Technical Publishing House of Machine-Building Literature (Mashgiz)

Date: 1952

No. pp.: 110

No. of copies: 8,000

Editorial Staff

Editor: Basov, M. I., Kand. of Tech. Sci.

TEXT DATA

Coverage: This monograph is the collective work of authors from the Institute of the Organization of the Automobile Industry, the Gor'kiy Automobile Plant im. Molotov (ZIM) and the Moscow Automobile Plant im. Stalin (ZIS). The authors describe the designs of modern cutting tools with hard-alloy multiple blade inserts, the results of their study and experience with the tools' cutting properties, and the advantages of

1/3

AID 482 - I

Rezhushchiye instrumenty s mnogolezviynymi
vstavkami iz tverdogo splava

these tools. Detailed descriptions of each tool type are given, with instructions for design, operation and practical use. The book contains data on the efficiency of the new tool designs in line production, and recommendations with reference to the operating conditions of these tools, as well as many illustrations, tables and diagrams. Of possible interest is the description of the electric spark technique on the OKB MSS single-circuit bench lathe used in the First State Bearing Plant im. Kaganovich (pp. 87-88, with illustrations).	
Table of Contents	PAGES
Foreword	3
Introduction	5-12
Ch. I Design of Tools with Hard-Alloy Multiple Blade Inserts	13-58
(Working principles; Shapes and sizes of inserts; Design of holders; ZIM type cutters; Design of milling cutters)	
Ch. II Cutting Properties of Tools with Hard-Alloy Multiple Blade Inserts	59-79
(Cutters; Milling cutters)	
Ch. III Operation of Tools with Hard-Alloy Multiple Blade Inserts	80-89
(Preparing the inserts for the operation; Grinding the inserts)	

Rezhushchiye instrumenty s mnogolezviynymi
vstavkami iz tverdogo splava

AID 482 - I

PAGES

Ch. IV Experience in Industrial Use of Tools with Hard-
Alloy Multiple Blade Inserts

90-102

Ch. V Efficiency of Use of Tools with Hard-Alloy
Multiple Blade Inserts

103-109

(Efficiency of use of: 1) cutters with prismatic inserts;
2) ZIM cutters with inserted plates; 3) Face milling
cutters with cylindrical inserts; Increased efficiency
of tools with hollow inserts)

Purpose: The book is intended for engineers, technicians and Stakhano-
vites in machine-building plants.

Facilities: "Orgavtoprom" (Organization of the Automobile Industry)
Institute; ZIM (Gor'kiy Automobile Plant im. Molotov); ZIS (Moscow
Automobile Plant im. Stalin)

No. of Russian and Slavic References: None

Available: A.I.D., Library of Congress

3/3

Basov, M.I.

"Precision in machining operations and means for increasing it."
A.P. Sokolovskiy. Reviewed by M.I. Basov. Avt. trakt. prom., no. 3, 1952.

KUZNETSOV, D.A.; ITKIN, A.A. [authors]; BASOV, M.I., kandidat tekhnicheskikh nauk
[reviewer].

"Repeated repair of a tool." D.A.Kuznetsov, A.A.Itkin. Reviewed by M.I.
Basov. Avt.trakt.prom. no.8:32-33 of cover Ag '53. (MLRA 6:8)

1. Orgavtoprom (for Basov). (Machine tools) (Kuznetsov, D.A.)
(Itkin, A.A.)

БАСОВ, М.И., кандидат технических наук; БРАКМАН, Л.А.

Determining cutting processes on multitool machines. Avt.trakt.prom .
no.11:20-27 N '54. (MLRA 8:1)

1. Orgavtoprom.
(Milling machines)

05/150V, M.I.

KARTSEV, S.P.; BASOV, M.I., kandidat tekhnicheskikh nauk, retsentsent;
KOLLI, A.Ya., redaktor; BELOSTOTSKIY, L.Ya., inzhener, redaktor;
BEYSEL'MAN, R.D., inzhener, redaktor; MODER', B.I. tekhnicheskii
redaktor.

[Thread cutting tools] Instrument dlia izgotovleniia rez'by.
Moskva, Gos.nauchno-tekhn.isd-vo mashinostroitel'noi lit-ry,
1955. 251 p. (MLRA 8:10)
(Screw cutting machines)

KARTSEV, Sergey Petrovich; BASOV, M.I., inzh., retsenzent; DOLGOVA,
G.Ye., tekhn.red.

[Screw-thread cutting tools] Rez'bonareznoi instrument.
Moskva, Gos.nauchno-tekhn.isd-vo mashinostroit.lit-ry, 1959.
99 p. (MIRA 13:2)
(Screw-cutting machines)

S/113/60/000/010/014/014
D270/D301

AUTHOR:

Basov, M.I.

TITLE:

The state and developmental prospects of piston ring
manufacture for car and tractor engines

PERIODICAL: Avtomobil'naya promyshlennost', no. 10, 1960, 43 - 44

TEXT: The All-Union Conference, convened by the Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniya (State Committee on Automation and Mechanical Engineering of the Council of Ministers of USSR) and by the Tambovskiy sovnarkhoz (Tambov Sovnarkhoz) was devoted to the state and prospects of piston ring manufacture. Simultaneously, prospects for the introduction of new designs of rings, such as coiled steel and sintered carbide were considered. Evaluation was made of their high productivity indices and also of the possibility of applying complex automation for their manufacture. Various organizational problems were discussed. The Conference took note of the large amount of work carried out by NIITAvtoprom, NAMI and the Michurinskiy avtozavod

Card 1/3

S/113/60/000/010/014/014

The state and developmental prospects.. D270/D301

imeni Lenina (Michurinsk Automobile Plant imeni Lenin) in introducing the production of coiled steel piston rings for ZIL and GAZ automobile engines. It recommended their manufacture as oil scraper rings in new engines, and as compression rings for old units. Results of investigations demonstrated that coiled steel rings have a double life, and also halve oil consumption. A report on the automated production of these rings at Michurinsk revealed that it leads to a 16-fold reduction of labor. The production area and equipment required is cut 6 fold. The conference approved the proposal of NIITAvtoprom to form with their own resources a complex automated shop to manufacture coiled rings by 1965. It also accepted the proposal of NIITRaktorsel'khosmash to establish a section for the production of oil scraper rings for tractor engines. Oil scraper rings developed by NATI, the Zavod porshnevykh kolets, Makinskiy (Piston rings Plant, Makinsk) and Stalingradskiy traktorny zavod (Stalingrad Tractor Plant) are recommended for D-54 engines. Successful solution of the whole problem of piston rings is closely related to results of work carried out by NIITAvtoprom on designing sintered carbide compression rings, which can be automa-

Card 2/3

the state and developmental prospects.. S/113/60/000/010/014/014
D270/D301

tically made. The initial good results of operational tests of sintered carbide rings provoked a conference resolution on speeding up testing of the above by NAMI, NATI and automobile plants. Trial production during 1960 - 1961 was decided with an output up to 1,000,000 rings. As cast iron rings remain a basic requirement, improvement of their production is important. The conference defined the following tasks: development of new complex processes for producing cast iron rings with automated equipment. This should be entrusted to several scientific and research institutes, such as: ENIMS, NIIBV, VNII, NIILITMash and others under the direction of NIITraktorsel'khoz mash. The conference called for a new draft standard for consideration by the Committee of Standards. It noted that there was no specialization in piston ring manufacture and urged that such specialization be adopted. Due to increased volume of production envisaged by the design institutes of Giproavtoprom and Giprotraktorsel'khoz mash, the required documentation for specialized plants for piston ring manufacture and shops for automated production of rings from steel strip must be evolved.

ASSOCIATION: NIITAVtoprom

Card 5/3

BASOV, M.I.

New trends in the technology of pressworking of metals. Avt. prom.
27 no. 4:29-33 Ap '61, (MIRA 14:4)

1. Nauchno-issledovatel'skiy tekhnologicheskii institut avtomobil'noy
promyshlennosti.
(Metalwork)

BASOV, M.I.

Modern technological equipment manufactured in the plants of the
Czechoslovak Socialist Republic. Avt.prom. 27 no.6:43-46 Je '61.
(MIRA 14:6)

(Czechoslovakia—Machinery industry)
(Brno—Exhibitions)

KRASAVIN, Sergey Anatol'yevich; YERMOLINSKIY, Ivan Aleksandrovich;
BASOV, M.I., red.; PLESKO, Ye.P., red.izd-va; SHIBKOVA, R.Ye.,
tekhn. red.

[Analysis of the administrative operations of a logging en-
prise] Analiz khoziaistvennoi deiatel'nosti ~~promkhoz~~promkhoa. Mo-
skva, Goslesbumizdat, 1962. 145 p. (MIRA 16:1)
(Lumbering--Accounting)

BASOV, M.I., kand.tekhn.nauk

Manufacture of steel piston rings based on over-all automation of technological processes. Avt.prom. 29 no.9:34-37 S '63.
(MIRA 16:9)

1. Nauchno-issledovatel'skiy tekhnologicheskoy institut
avtomobil'noy promyshlennosti.
(Piston rings) (Automation)

BASOV, M.M. <i>ca</i>		3
Spectral sensimetry in the region of color cinematography. V. A. Kisel and M. M. Basov. <i>J. Tech. Phys.</i> (U. S. S. R.) 8, 544-546 (1938). The sensimeter used is described. The relation of the image density to the light intensity and the wave length is measured for 3 Russian and 3 American brands of emulsion. J. J. H.		
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION		

BASOV, M. M.

"Movie Screens"
Kinomekhanik no. 8, 1951

DASON, W.H.

"Day-time motion picture projection."
Kinomekhanik, no. 10, 1951

BASOV, N.

Determining the effect of mechanization and automation on the growth
of labor productivity in machinery manufacturing. Biul. nauch.
inform.: trud i zar. plata 4 no.9:3-7 '61. (MIRA 15:1)
(Machinery industry--Labor productivity)

BASOV, N.A.

Forming of mercury rectifiers on rheostats made from Nichrome bands instead of liquid rheostats. Rats. predl. na gor. elektro-transp. no.9:53-54 '64. (MIRA 18:2)

1. Energosluzhba Tramvayno-trolleybusnogo upravleniya Leningrada.

BASOV, N. G.

USSR/Nuclear Physics - Spins 21 Jun 53

Determination of 0-Spins and $K/2$ -Spins of Nuclei
From Microwave Spectra of Molecules," A. M. Pro-
khorov and N. G. Basov, Physics Inst im Lebedev,
Acad Sci USSR

DAN SSSR, Vol 90, No 6, pp 1003-1004

Offer a method to determine spins equal to 0 or $1/2$.
This method is similar to determination of spin
by succession of intensities of band spectra of dia-
tomic molecules consisting of similar nuclei. In
such case the statistical weights of various terms

269T92

depend on spin magnitude of similar nuclei. Pre-
sented by Acad M. A. Leontovich 16 Jun 53.

515 343

Application of molecular beams to the radio
spectroscopic study of the rotation spectra of molecules.
N. G. BASOV AND A. M. PROKHOROV. *Zh. eksper.
teor. fiz.* 29:495, 4(10) 431-8 (1954) (in Russian).

A detailed calculation of the effects obtainable when
molecular beams replace static gas in microwave
spectroscopy. With unsorted beams the advantage is
a reduction of the Doppler width, down to 7 kcs at
850 c for CsF for example. When the beams are
sorted so that only one rotational state is present,
emission of energy is possible and a molecular
generator is obtained. Again with CsF for the $J_1 \rightarrow J_2$
transition with reasonable beam densities, Q factor of
the cavity, etc., a signal-to-noise ratio of 7 is estimated.

D. H. WHIFFEN

BASSOV, N.G.

1. ~~As a participant in the~~ and a ~~member of the~~
~~Committee on A. N. S. I.~~
~~Committee on A. N. S. I.~~

(1)

(2)

BASOV, N. G.

USSR/Electronics - Regeneration

FD-1830

Card 1/1 Pub 146-15/25

Author : Basov, N. G.; Veselago, V. G.; Zhabotinskiy, M. Ye.

Title : Increase in the quality of the volume resonator by means of regeneration

Periodical : Zhur. eksp. i teor. fiz. 28, 242, February 1955

Abstract : In connection with the possibility with the construction of a molecular oscillator (N. G. Basov and A. M. Prokhorov, *ibid.* 27, 431, 1954; Gordon, Zeiger, Townes, *Phys. Rev.* 95, 282, 1954) the problem arose concerning the essential enhancement of the quality of volume resonators, one of the methods to be used being the creation of superconducting volume resonators (M. S. Khaykin, *DAN SSSR*, 75, 661, 1950) and another method being the use of the method of regeneration well known in low-frequency radio range (G. Barkhausen, *Elektronnyye lampy*, Moscow, 1938). The authors conducted experiments using a volume resonator with goodness $Q=4 \cdot 10^4$ in a circuit of positive feedback with a microwave amplifier. They increased the effective goodness to $3 \cdot 10^6$.

Institution: Physics Institute im. P. N. Lebedev, Academy of Sciences USSR

Submitted : November 4, 1954

BASOV, N. G.

USSR

539.133
6377. On possible methods of producing active molecules for a molecular generator. N. G. BASOV AND A. M. PRIGOROV. Letter in *Zh. Eksp. teor. Fiz.*, 28, No. 2, 249 (1955) In Russian.

Active molecules for low-frequency molecular generators can be obtained by previous radiation with a high-frequency auxiliary field. This causes resonance transitions between different molecular terms.

J. JACOB

BASOV, N. G.

USSR/ Physics

Card 1/1

Pub. 22 - 12/51

Authors

: Basov, N. G., and Prokhorov, A. M.

Title

: The theory of a molecular generator and a molecular power
amplifier

Periodical

: Dok. AN SSSR 101/1, 47-49, Mar 1, 1955

Abstract

: A cavity resonator is considered as an example of a molecular generator with the feedback system. Properties and characteristics of such generators are described. Due to certain peculiarities of the molecular generators, it is suggested that their characteristics be studied in the light of the quantum theory. Four references: 2 USSR and 2 USA (1948-1954).

Institution

: Acad. of Scs., USSR, The P. N. Lebedev Physical Institute

Presented by

: Academician M. A. Leontovich, November 29, 1954

USSR/Physical Chemistry - Molecule. Chemical Bond.

B-4

Abs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18180

Author : Basov, N.G., Oracvskiy, A.N., and Svidzinskiy, K.K.
 Title : Theory of Superfine Structure of Rotational Spectra of
 Molecules Conditioned by the Electrical 2^4 -pole Moment
 of Nucleus.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 3, 285-289

Abstract : The value of energy of 2^4 -pole interaction of nucleus
 with the field of a molecule can have the order of 1khc
 which makes it possible to measure 2^4 -pole moment of nu-
 cleus by radiospectroscopic method. In this work the
 theory of superfine structure of rotational spectra of
 linear molecules and molecules of the type of symmetrical
 top is developed. The structure is conditioned by the
 electrical 2^4 -pole moment of nucleus. By resolving into
 a series, by powers of r_a (r_a is a coordinate of the char-
 ge), the potential energy of a system of charges, which

Card 1/3

- 32 -

USSR/Physical Chemistry - Molecule. Chemical Bond.

B-4

Abs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18180

is located in the outer field, a classical tensor of the 2^4 -pole moment is built. The tensor operator of 2^4 -pole moment of nucleus eD_{iklm} is built by analogy with the classical tensor from the projections of the spin of the nucleus and the symmetry of the classical tensor is taken into consideration. Moreover, the tensor operator is symmetrized because of uncommutative character of projections of the spin of nucleus. Hamiltonian of 2^4 -pole interaction is equal:

$$\hat{H} = (e/4!35) D_{iklm} (\partial^4 \varphi(0) / \partial x_1 \partial x_k \partial x_l \partial x_m)$$

In case of an axial symmetry of the field of the molecule

$$\hat{H} = (e/3.64) D_{3333} \partial^4 \varphi(0) / \partial z^4$$

Card 2/3

- 33 -

USSR/Physical Chemistry - Molecule. Chemical Bond.

B-4

Abs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18180

where ζ is the axis of symmetry of the molecule.

A computation of D_{3333} is carried out in a system of coordinates rigidly bound with the molecule, and diagonal matrix elements of the hamiltonian of 2^4 -pole interaction in terms of I, J, K, F are computed ($F = \bar{I} + \bar{J}$).

Card 3/3

- 34 -

BASOV, N. G.
USSR / Radiophysics. Application of Radiophysical Methods I-9
Abs Jour : Ref Zhur - Fizika, No 5, 1957, No 12638
Author : Basov, N.G.
Inst : Not given
Title : The Molecular Oscillator
Orig Pub : Radiotekhn. i elektronika, 1956, 1, No 6, 752-757
Abstract : Description of the construction of a molecular oscillator operating on the lines $J = 3$, $K = 3$ of the inversion spectrum of ammonia. The power of the generator was measured ($\sim 10^{-9}$ watts). An estimate is made of the stability by comparing two oscillators ($\sim 10^{-9}$). A dependence is established between the frequency and the intensity of the beam and the voltage on the sorting capacitor. Bibliography, 10 titles.
Card : 1/1

Name: BASOV, Nikolay Gennadiyevich

Dissertation: Molecular generator

Degree: Doc Phys-Math Sci

Affiliation: [not indicated]

Defense Date, Place: 25 Jun 56, Council of Physics Inst
imeni Lebedev, Acad Sci USSR

Certification Date: 6 Jul 57

Source: BMVO 19/58

BASOV, N. G.

"Molecular Oscillator With a Beam of Ammonia Molecules,"
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This article describes construction and operating features of a 23,870 Mc molecular oscillator operating with a beam of ammonia molecules, which was built in 1955 at the Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR.

The operation of a molecular oscillator is based on the principle of a beam with a positive number of active molecules passing through a cavity resonator, which is tuned to the frequency of molecular transit, so that oscillations will be generated in the resonator as a result of the absorption of the induced energy of the molecular radiation. Such oscillations take place because the molecules of the beam will radiate energy under the influence of energy previously stored in the cavity resonator as a result of radiation from molecules during the preceding instant.

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